

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2002-201676

(43)Date of publication of application : 19.07.2002

(51)Int.Cl.

E02F 9/26

E02F 9/18

E02F 9/24

(21)Application number : 2001-134127

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(22)Date of filing : 01.05.2001

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(30)Priority

Priority number : 2000323518

Priority date : 24.10.2000

Priority country : JP

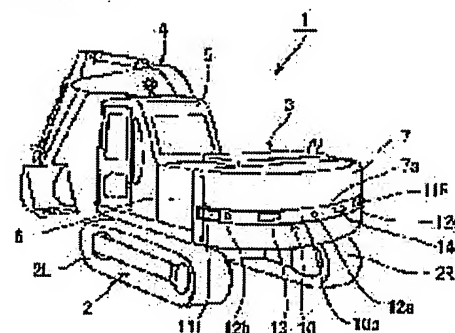
## (54) WARNING DEVICE OF WORKING VEHICLE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a low cost warning device of a working vehicle that is hard to damage.

SOLUTION: The warning device of a working vehicle has obstacle detection means positioned on the revolving super structure of the working vehicle and actuates an alarm means to sound an alarm when the obstacle detection means detect an obstacle. A counterweight 7 mounted at the rear end portion of the revolving super structure 3 has a recess 7a formed in its rear outer surface along a predetermined length in the cross direction of the counterweight 7. An alarm 10 having the obstacle detection means 12a, 12b and 12c and the alarm means 13 is contained in the recess 7a.

油圧ショベルの側視図



1:油圧ショベル  
2:下部走行体  
3:上部回転体  
4:エンジン  
5:油圧ポンプ  
6:エンジンカバー  
7:カウンタウエイト  
7a:凹部  
10:警報器  
11:後面  
12a, 12b, 12c:障害検出手段  
13:警報手段  
14:後面  
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## LEGAL STATUS

[Date of request for examination]

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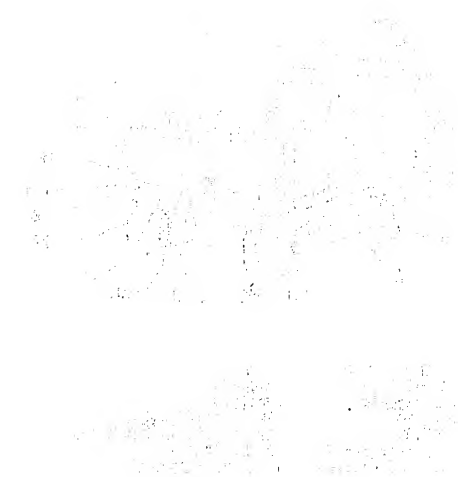
[Date of registration]

[Number of appeal against examiner's decision of rejection] 4710 30 30151 A

[Date of requesting appeal against examiner's decision of rejection] 2003.04.10

[Date of extinction of right]

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この発明は、コンピュータを用いて、  
データベースに格納されたデータを検索する  
ための装置、方法及びプログラムに関する。  
従来のデータベース検索装置では、  
検索条件を入力すると、データベースに  
格納されたデータを検索し、検索結果を  
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2.\*\*\* shows the word which can not be translated.

3.In the drawings, any words are not translated.

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CLAIMS

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[Claim(s)]

[Claim 1] In the alarm of the activity car which operates an alarm means and emits an alarm when the obstruction detection means is arranged to the revolving super-structure of an activity car and this obstruction detection means detects an obstruction The alarm of the activity car characterized by holding the alarm equipped with the obstruction detection means and the alarm means in a crevice or a long hole while forming the crevice or long hole of predetermined die length in the backside [ the balance weight carried in the back end section of a revolving super-structure ] lateral surface along the cross direction of a balance weight.

[Claim 2] It is the alarm of the activity car characterized by having the revolution warning light which turns on said alarm in the alarm of an activity car according to claim 1 according to revolution actuation of a revolving super-structure to right-and-left both ends, respectively.

[Claim 3] It is the alarm of the activity car characterized by having the back floodlight which turns on said alarm in the alarm of an activity car according to claim 1 or 2 according to go-astern actuation of an activity car.

[Claim 4] In the alarm of the activity car which operates an alarm means and emits an alarm when the obstruction detection means is arranged to the revolving super-structure of an activity car and this obstruction detection means detects an obstruction While forming the crevice or long hole of predetermined die length in the backside [ the balance weight carried in the back end section of a revolving super-structure ] lateral surface along the cross direction of a balance weight The alarm of the activity car characterized by holding the alarm equipped with the obstruction detection means and the revolution warning light turned on according to revolution actuation of a revolving super-structure in a crevice or a long hole.

[Claim 5] It is the alarm of the activity car characterized by holding in a crevice or a long hole so that said alarm may not project from the lateral surface of a balance weight in the alarm of an activity car given in any of claims 1-4.

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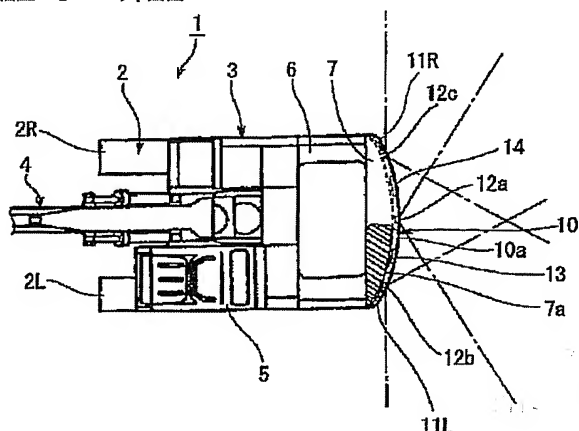
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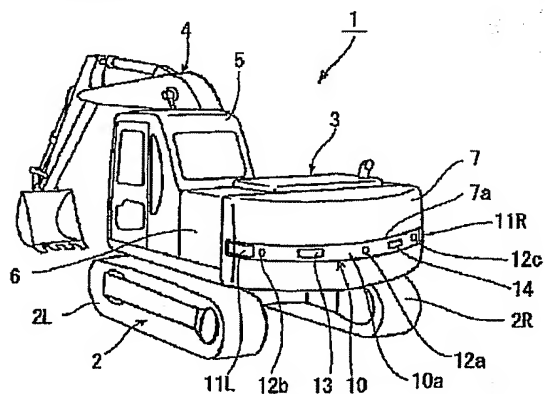
## DRAWINGS

油圧ショベルの平面図



[Drawing 1]

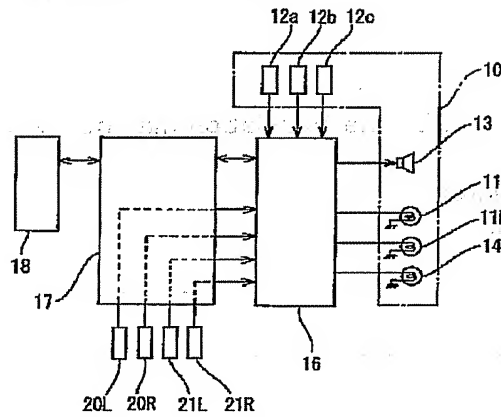
油圧ショベルの斜視図



- |             |                       |
|-------------|-----------------------|
| 1: 油圧ショベル   | 7a: 溝                 |
| 2: 下部走行体    | 10: 警報器               |
| 3: 上部旋回体    | 10a: 棒体               |
| 4: 作業機      | 11L, 11R: 旋回警報灯       |
| 5: 運転室      | 12a, 12b, 12c: CCDカメラ |
| 6: エンジンフード  | 13: 警報ブザー             |
| 7: カウンタウエイト | 14: 後方照明ランプ           |

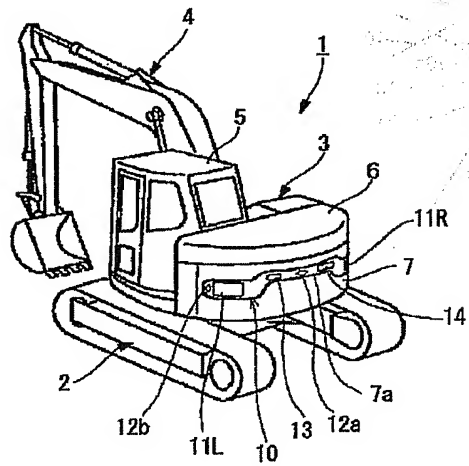
[Drawing 2]

実施形態に係わるブロック構成図



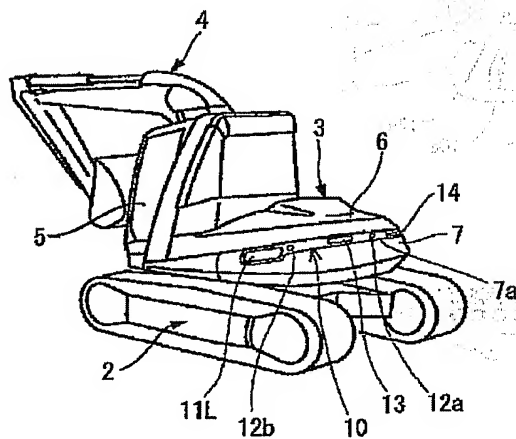
[Drawing 3]

別態様の油圧シヨベル



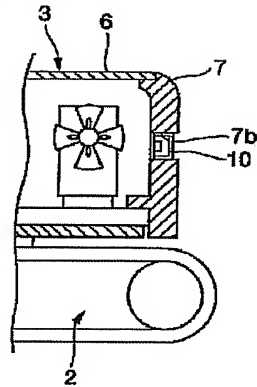
[Drawing 4]

別荘様の油圧ショベル



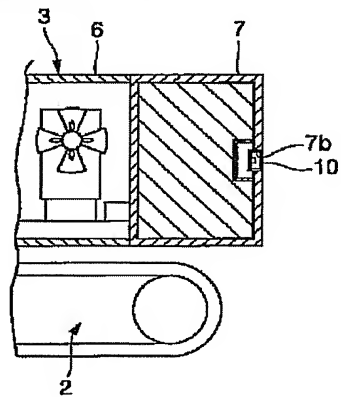
[Drawing 5]

別態様の油圧シヨベル



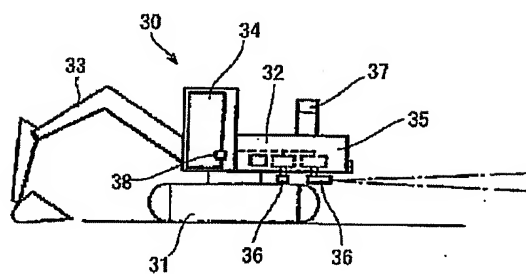
[Drawing 6]

別態様の油圧シヨベル



[Drawing 7]

従来技術の油圧シヨベル



[Drawing 8]

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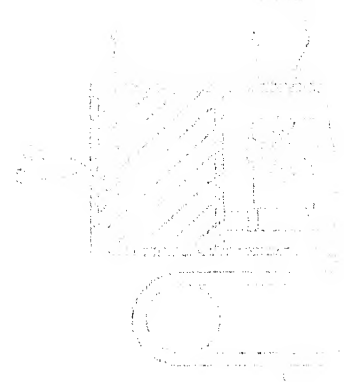
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